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|  | **Physics** | **شعار-القسم** |
| **Worksheet-3-** |
| Energy Transformation |

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| Name: Class: 8 /……........ | |
| Book pages:240-246 | |
| **18-1-2012** | Date: |
| 8.16.4.- 8.16.5- 8.16.6 | Core Standard number |
| 1. Know that during any process of energy transformation heat is produced as waste and this is a problem for engineering 2. Know that the petrochemical complexes in Qatar use seawater to remove waste heat and know why there are strict regulations that control the temperature of the seawater that is returned to the sea. 3. Know and use the joule as the unit of energy.. | Learning Objectives  Logo + text 2 |

1. Complete the following table:

Precise the input energy and the output energy.

|  |  |  |
| --- | --- | --- |
| **Input energy** | **Device that transforms energy** | **Output energy** |
| **Electric energy** | Electric fan | **Kinetic energy-heat energy** |
| **Electrical energy** | TV | **Heat energy-sound energy** |
| **Chemical energy** | Gas fire | **Heat energy-light energy** |
| **Chemical energy** | Car battery | **Electric energy-heat energy** |
| **Chemical energy** | Food | **Heat energy-kinetic energy** |

1. What is the process that happened during the energy transformation in the table above?

**Enegy is converted from one form to another form**

1. Why the getting rid of waste heat energy is an engineering problem in many energy transformations?

**Because it costs too much money.**

1. How do the petrochemical complexes in Qatar remove waste heat?

**In Doha power station, the waste heat is used to distil seawater to make potable water.**

1. An electric motor receives an electric energy of 150 J. During its normal working the electric motor uses only energy of 130 J. The electric motor transforms the electric energy into kinetic energy and thermal energy.
2. Complete the following:

electric energy **Kinetic energy** + **heat**

1. What is the amount of the kinetic energy?

**130 J**

1. Deduce the amount of energy dissipated as thermal energy form.

**Energy dissipated = 150-130 = 20 J**